

Appl. No. 09/766,275
Amtd. Dated December 21, 2004
Reply to Office Action of September 22, 2004

Pending Claims:

This listing will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Previously presented): A stretchable composite sheet comprising:

an elastic sheet having a stretchability in at least one of two directions that are orthogonal to each other; and

a fibrous assembly in the form of a sheet having a stretchability in one of said at least two directions and joined to at least one surface of said elastic sheet, said fibrous assembly comprising a plurality of fibers and having an inelastic stretchability and being joined to said elastic sheet at binding spots to form a joined composite sheet structure which is thereafter stretched so as to change the dimensions of the fibers in the fibrous assembly and the elastic stretchability of the composite sheet, said binding spots being arranged intermittently along said two directions, said fibrous assembly comprising fibers that are curved between adjacent pairs of said binding spots along said one of said at least two directions, said fibers comprising ethylene/propylene copolymer containing ethylene at 0.5 – 10% by weight, ethylene/propylene/butene containing ethylene at 0.5 – 10% by weight and butene at 0.5 – 15% by weight, or a mixture thereof at 100 -10% by weight.

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Claim 2 (Previously presented): The stretchable composite sheet according to Claim 1, wherein said fibers further comprise propylene homopolymer from greater than 0% to 90% by weight.

Claim 3 (Previously presented): The stretchable composite sheet according to Claim 1, wherein said elastic sheet and said fibrous assembly are heat-sealed with each other at said binding spots.

Claim 4 (Withdrawn): A process for making a stretchable composite sheet comprising the steps of:

- a) providing a first web made of thermoplastic synthetic fiber and being inelastically stretchable in one direction, said first web being formed with fibers that comprise ethylene/propylene copolymer containing ethylene at 0.5 – 10% by weight, ethylene/propylene/butene containing ethylene at 0.5 – 10% by weight and butene at 0.5 – 15% by weight, or a mixture thereof at 100-10% by weight and having a breaking extension of at least 150%;
- b) providing a second web made of thermoplastic synthetic resin and being elastically stretchable at least in said one direction, said second web being elastically stretchable by at least 80% in said one direction;
- c) continuously feeding said first web in said one direction;
- d) continuously feeding said second web in said one direction and placing said second web upon said first web;

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- e) joining said first and second webs having been placed upon each other in step d) to each other intermittently in said one direction and in the direction orthogonal to said one direction, at least in said one direction;
- f) stretching said first and second webs having been joined to each other in step e) in said one direction and said direction orthogonal to said one direction, at least in said one direction within an elasticity limit of said second web and within a breaking extension of said first web; and
- g) allowing the first and second webs having been stretched in step f) contract to obtain said composite sheet.

Claim 5 (Withdrawn): The process according to Claim 4, wherein said first and second webs are stretched at least 80% in said step f).

Claim 6 (Previously presented): A stretchable composite sheet obtained by:

- a) providing a first web made of a thermoplastic synthetic fiber and being inelastically stretchable in one direction, said web being formed from fibers that comprise ethylene/propylene copolymer containing ethylene at 0.5 – 10% by weight, ethylene/propylene/butene containing ethylene at 0.5 – 10% by weight and butene at 0.5 – 15% by weight, or a mixture thereof at 100 -10% by weight and having a breaking extension of at least 150%;

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- b) providing a second web made of thermoplastic resin and being elastically stretchable at least in said one direction, said second web being elastically stretchable by at least 80% in said one direction;
- c) continuously feeding said first web in said one direction;
- d) continuously feeding said second web in said one direction and placing said second web upon said first web;
- e) joining said first and second webs having been placed upon each other in step d) to each other intermittently in said one direction and in the direction orthogonal to said one direction, at least in said one direction to form a composite web
- f) stretching said first and second webs having been joined to each other in step e) in said one direction and said direction orthogonal to said one direction, at least in said one direction within an elasticity limit of said second web and within a breaking extension of said first web so as to change the dimensions of the fibers in the first web and the elastic stretchability of the composite web; and
- g) allowing the first and second webs having been stretched in step f) contract to obtain said composite sheet.

Claim 7 (Previously presented): The stretchable composite sheet according to Claim 1, wherein said fibers comprise ethylene/propylene copolymer containing ethylene at 0.5 – 10% by weight,

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ethylene/propylene/butene containing ethylene at 0.5 – 10% by weight and butene at 0.5 – 15% by weight, or mixtures thereof at 100% by weight.